



Delivering Wireless GigE to Northern Indiana K-12 School System



Challenge: Supply a wireless solution that would increase data throughput capabilities to meet new demands, and decrease soaring maintenance costs incurred by existing end-of-life wireless system.

Schools are also progressively adding new technology such as remote library management, video classrooms, VoIP, video surveillance, etc; all of which depend on high bandwidth utilization. As they upgrade their education-based software packages, many school systems are also recognizing that their current data infrastructure is not up to the requirements of the software.

Additionally schools are cutting costs by automating traditional maintenance tasks such as their heating, ventilation, and air conditioning (HVAC.)

Fiber and copper infrastructures are expensive, especially to the rural school corporation where distances between schools are large. In these areas, new wireless products that offer similar abilities at lower costs are becoming more popular.

Solution: A licensed wireless gigabit Ethernet (GigE) point to point managed services solution that permitted the school system to upgrade capabilities, allowed room for growth, ensured integrity of the system through the use of licensed spectrum, and transferred costs from a model of total ownership to one of purchasing services.

ERS Data Solutions designed a solution comprised of Bridgewave Communications' AR80X (E-Band) wireless point to point radios, and a Cisco network edge infrastructure.

The Bridgewave Communications AR80X provides full duplex Gigabit Ethernet over an 80GHz wireless link. BridgeWave's AdaptRate™ Technology allows the radios to adjust to 100MB Fast Ethernet during rain or snow fade events and maintain a link where competitive radios would drop a link. Additionally, highly narrow beam-width antennas, in conjunction with licensed spectrum, and the availability of AES encryption make this a very secure solution. Latency of <50 microseconds and forward error correction make this an extremely efficient wireless solution.



The Cisco infrastructure consists of Metro Series switches bringing greater intelligence to the network edge and enabling the delivery of differentiated Ethernet services. Featuring bidirectional hierarchical QoS and Traffic Shaping, intelligent 802.1Q tunneling, VLAN translation, MPLS, EoMPLS, and H-VPLS support, redundant AC or DC power, Layer 2, Layer 3, and MPLS VPNs, in a variety of bandwidths.



Benefits: The Bridgewave GigE product, not only greatly increased the bandwidth to levels the school system needed, but latency improvements offered applications a more efficient environment to operate in. The Cisco Edge Infrastructure allowed a simple, yet secure way for this managed service platform to interface with the school system's existing network. By offering the solution as a managed service platform, ERS was able to reduce total cost of ownership, while providing a system with growth potential and opening the doors for more progressive applications in the future.

Most importantly, the managed service platform enabled the school system to take advantage of non-traditional fiscal opportunities related to purchasing contractual services, versus ownership, thus improving budgetary issues.

ERS Data Solutions Group

ERS Data Solutions Group is an Indianapolis, Indiana based division of Emergency Radio Service, Inc which has been a leader in Wireless Communications since 1948. ERS Data Solutions Group focuses on Mobile and Fixed Wireless, Enterprise Mobility, and Interoperable Network Communications for Commercial, Enterprise, Education, Health Care, and Public Safety customers. With certified professionals and relationships with the industry's top developers/manufacturers you can count on ERS Data Solutions Group for system design and support.

ERS Data Solutions Group offers a comprehensive portfolio of wired and wireless data, voice and video solutions. As Authorized Channel Partners for Motorola, Cisco, Microsoft, Bridgewave Communications, and Dragonwave to name a few, ERS Data Solutions Group can help you design, install and maintain a broad variety of data solutions such as Wireless Point-to-Point/Point-to-Multipoint, Wireless MESH Networking, WLAN, WWAN, Mobile Data, Broadband over Powerline, IPICS, VoIP, Bar Coding, RFID, and VPN solutions.

ERS Data Solutions Group serves the Great Lakes Region with offices in Fort Wayne, Indianapolis and South Bend in Indiana; and Itasca, Illinois.

Bridgewave Communications

Bridgewave Communications, Inc. is the leading supplier of wireless gigabit solutions. BridgeWave is a U.S. based company headquartered in Santa Clara, California, founded in 1999 by veteran technology executives from the high-performance wireless industry. BridgeWave delivers highly-reliable, cost-effective gigabit wireless solutions for enterprise, service provider, and government networks, including municipal and military applications.

BridgeWave's U.S.-designed and -manufactured gigabit wireless products are enabled by BridgeWave's proprietary transceiver and modem technologies. BridgeWave's products utilize the upper millimeter-wave radio spectrum in the recently-allocated 60-90GHz range, enabling multi-gigabit per second wireless connectivity at affordable price points.

Setting the standard for product quality, BridgeWave employs Highly Accelerated Life Testing (HALT) during design and Highly Accelerated Stress Screening (HASS) during production to ensure the highest levels of product reliability and customer satisfaction. BridgeWave has achieved ISO9001 registration for over five years running.

Cisco Networks

Cisco Systems, Inc., based in San Jose, California, is the worldwide leader in networking for the Internet. Today, networks are an essential part of business, education, government and home communications, and Cisco Internet Protocol-based (IP) networking solutions are the foundation of these networks.

Cisco hardware, software, and service offerings are used to create Internet solutions that allow individuals, companies, and countries to increase productivity, improve customer satisfaction and strengthen competitive advantage. The Cisco name has become synonymous with the Internet, as well as with the productivity improvements that Internet business solutions provide. At Cisco, our vision is to change the way people work, live, play and learn.

Cisco enables people to make powerful connections-whether in business, education, philanthropy, or creativity. Cisco hardware, software, and service offerings are used to create the Internet solutions that make networks possible-providing easy access to information anywhere, at any time. Cisco was founded in 1984 by a small group of computer scientists from Stanford University. Since the company's inception, Cisco engineers have been leaders in the development of Internet Protocol (IP)-based networking technologies. Today, with more than 63,050 employees worldwide, this tradition of innovation continues with industry-leading products and solutions in the company's core development areas of routing and switching.



ERS Data Solutions Group
4515 S High School Rd,
Indianapolis, Indiana 46241
800-377-2929

<http://www.ersdatasolutions.com>

Specializing in Mobile and Fixed Wireless,
Enterprise Mobility, and Interoperable
Network Communications.

A division of Emergency Radio Service, Inc.